

Remarks

Claims 1, 3-27, 29-36, and 38-40 are in the application. Claims 1, 10, 21, 27, 32, 36, and 39 are in independent form. Claims 2, 28, and 37 have been cancelled. Reconsideration is requested.

Claims 1-4, 6-18, 20-22, 24-28, 30-34, 36-37 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Maier et al., "Superimposed information for the Internet", ACM SIGMOD Workshop on The Web and Databases WebDB '99, pages 1-9, Philadelphia, Pennsylvania, June 3-4, 1999 (hereinafter Maier99). Claims 5, 19, 23, 29, 35, 38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maier99 in view of Lassila et al., "Resource Description Framework(RDF) Model and Syntax Specification", W3C Recommendation 22 February 1999, URL:<http://www.w3.org/TR/REC-rdf-syntax> (hereinafter Lassila99).. Applicants respond as follows.

Independent claims 1, 10, 21, 27, 32, 36, and 39 have been amended to clarify the claimed subject matter. Claims 2, 28, and 37 have been canceled as being redundant in view of the amended claims.

With reference to claim 1, for example, the amendment clarifies that the first representation scheme is based upon a first model having first structural primitives and a first manner of composing them, and that the uni-level description uses basic structures that represent the selected computer information and the first model.

The amendment further clarifies that the basic structures include construct elements and structural connector elements that connect construct elements to represent the selected computer information and the first model. The remaining independent claims have been amended to include similar clarifications. Applicants submit that the amended independent claims are patentably distinct from the cited references for the following reasons.

Maier99 is directed to superimposed information for the Internet in which superimposed information is deemed "to denote information overlaid on other,

existing base information for a variety of purposes." Maier99 goes on to add "we regard superimposed information as different from a restructuring or alternative view of the base information. Rather, superimposed information leaves the base information as is, and adds supplementary information over it." (Maier99, page 2, first full paragraph.)

As one example of superimposed information, Maier99 states "a concordance (directory of word occurrences) for Shakespeare's plays exists as a separate document, with references to lines in the plays. (Those references might take the form of Play, Act, Scene, Line Number, where the line numbering is relative to a standard edition.)" (Maier99, page 2, first full paragraph.) As another example, Maier99 illustrates in Fig. 2 superimposed information in the form of a structured map that tracks artists and paintings from documents in a base layer. As illustrated in Fig. 2, each document in the base layer is of the same type (i.e., DTD).

Applicants submit that the subject matter of independent claims 1, 10, 21, 27, 32, 36, and 39 is distinct from the superimposed information of Maier99. Referring to claim 1, for example, the first representation scheme is based upon a first model having first structural primitives and a first manner of composing them, and that the uni-level description uses basic structures that represent the selected computer information and the first model. Claim 1 recites, therefore, that the uni-level description uses basic structures to represent selected computer information, as well as the first model upon which the first representation scheme for the information is based. As described at page 3, lines 4-19 of the application:

The present invention provides a generic, uni-level description of structured, computer-based information. The uni-level description can be used to describe an unlimited number of computer information representation schemes. The uni-level description is self-describing; that is, the uni-level description includes a description of the representation scheme, a description of the schema (if there is one), and the actual data. The uni-level description can accommodate representation schemes with more than one level of schema.

The uni-level description is built using basic structures, which are the building blocks for describing arbitrary representation schemes. Two of the basic structures are construct and connector. Constructs represent the primitive components of a representation scheme (such as "element" in XML or "table" in a relational database). Connectors allow constructs to be connected or associated in relationships (such as the nesting of elements in XML or the attachment of anchors to topics in Topic Maps).

As a result, the representation scheme transformation method of claim 1 uses basic structures to represent not just data in a single type of document, (e.g., DTD documents shown in Fig. 2 of Maier99), but also represents arbitrary computer information representation schemes with a generic representation called the uni-level description. Examples of the different computer information representation schemes this generic representation can be applied are listed at application page 9, lines 4-17:

In addition, the uni-level description is capable of describing computer information that conforms to an unlimited number of such representation schemes, including but not limited to: the EXPRESS data model, semi-structured data models such as YAT and OEM, semantic data models such as the Entity Relationship model and the class diagram of the Unified Modeling Language (UML), nested relational models, object relational models such as GEM and the IBM DB2 model, hierarchical models such as IBM IMS, object-oriented models like those used in GemStone and O2, composite document models such as OpenDoc, spreadsheet models in products like Microsoft Excel®, hierarchy-based models like directory structures of file systems or LDAP, the binary data model, conceptual models as used in the Microsoft® Metadata Repository, knowledge representation models as found in KIF/KQML, the model of ASN.1, and various data interchange formats including NetCDF and CIF.

Maier99 describes superimposed information as "information overlaid on other, existing base information," but provides no hint of collecting or representing the structure of the existing base information. Indeed, Maier99 states that "superimposed information leaves the base information as is, and adds supplementary information over it." In contrast, claim 1 recites a transformation method that transforms the representation scheme of computer

information. These features of claim 1 that are distinct from Maier99 are similarly recited in the remaining independent claims.

Applicants submit, therefore, that independent claims 1, 10, 21, 27, 32, 36, and 39, and their dependent claims, are patentably distinct from the cited references. Applicants request that the rejections be withdrawn.

Moreover, applicants submit that claims 5, 19, 23, 29, 35, 38 and 40 are patentable over Maier99 in view of Lassila99, the latter of which is the model and syntax specification for Resource Description Framework (RDF). In the rejection the Examiner states that it would have been obvious to incorporate the teaching of Lassila99 into the teaching of Maier99 to use RDF's 3 tuples (triples) to represent the uni-level description.

Applicants note, however, that as indicated above, Maier99 provides no teaching or suggestion of a uni-level description of the representation scheme of computer data. Rather, Maier99 is directed to merely collecting information, such as from DTD documents, and makes no indication of representing the model or representation scheme that defines those documents. Similarly, Lassila99 is directed to using metadata to describe the data on the Web. (Lassila99, page 2, first full paragraph.) Accordingly, Maier99 and Lassila99 are both directed to describing data or information, but not representation schemes or models that contain the data. Applicants submit, therefore, that claims 5, 19, 23, 29, 35, 38 and 40 are also patentably distinct from the cited references and request that the rejection be withdrawn.

Applicants believe the application is in condition for allowance and respectfully request the same.

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Respectfully Submitted,



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